## REMARKS

This revised amendment is being filed in response to the Notice Regarding Non-Compliance of Amendment "B", which was filed on April 12, 2004. This revised amendment is substantially the same as the original Amendment "B", but for minor corrections that have been made to overcome the issues of non-compliance.

The Office Action mailed December 23, 2003, considered claims 1-7, 9-26 and 28-39. Claim 11 was rejected under 35 U.S.C. § 112, second paragraph, as being incomplete for omitting structural connections deemed necessary by the Examiner. Claims 29-37 and 39 were rejected under 35 U.S.C. § 103(a) as being unpatentable over "Bolognia" (U.S. Patent No. 6,424,670). Claim 38 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Bolognia in view of Alfano (U.S. Patent No. 6,037,732). Claims 1-6, 8-11, 12-14, 26 and 28 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Hirano (U.S. Patent No. 6,219,236) in view of Bolognia. Claim 7 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Hirano and Bolognia, and further in view of Alfano[1].

By this paper, claims 1, 10, 11 and 26 have been amended and claims 6, 27-30, 32 and 39 have been cancelled. Accordingly, claims 1-5, 7, 9-26, 31, 33-38 remain pending, of which claims 1, 15 and 26 comprise independent claims. Inasmuch as claim 15 has already been allowed, amended claims 1 and 26 are the only independent claims that remain at issue.

Claims 1 is directed to a computing device having a housing adapted to receive a processor, a fan mounted within the housing, and a support structure that is configured to limit electromagnetic interference caused by the processor. The amended claim also recites that the fan has a low operational velocity and a low acoustic signature of less than about 36 dB. Support for this amended claim element is specifically supported by the description of the invention in paragraph [036] of the specification.

Claim 1 also recites that the fan has a diameter that is configured in size for enabling the fan to cool the at least one processor at the low operational velocity. Support for this claim element is specifically provided by the description in paragraph [0013].

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[1] Although the prior art status of the cited art is not being challenged at this time, Applicants reserve the right to challenge the prior art status of the cited art at any appropriate time, should it arise. Accordingly, any arguments and amendments made herein should not be construed as acquiescing to any prior art status of the cited art.

Applicant respectfully submits that the cited art fails to disclose or suggest a device as recited in claim 1. In fact, none of the cited art even describes any device at all that is operable to cool a processor with a sufficiently low rotational velocity as to avoid generating a high acoustic signature (e.g., greater than about 35dB).

The Examiner has suggested in the last action that there is no support for explaining why varying the diameter of a fan can eliminate or decrease an acoustic noise generated by the fan. Applicants respond by stating that the claim recites two attributes of a fan that work in combination to reduce the acoustic noise of a fan. In particular,

> The acoustical noise generated by the fan is directly proportional to the rotational velocity of the fan, i.e., the RPM. Hence, a fan rotating with a high RPM creates a greater amount of acoustical noise than the same fan rotating at a low RPM. Further, the frequency of the acoustical noise created by a high RPM fan is higher than a low RPM fan. (Para [036], ll. 2-5).
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> By configuring the fan with a large diameter, a relatively large flow of air is drawn into and forced from the housing of the computing device to cool the components of the computing device using a fan having a relatively low number of revolutions per minute. The relatively low rotational velocity results in a relatively low amount of acoustic noise generated by the fan. Consequently, the computing device generates low acoustic noise. (Para [013], ll. 2-9).

Accordingly, by providing a fan with a sufficiently large diameter, it is possible to run the fan at an operational velocity that is sufficiently low enough to avoid creating a high acoustic signature and that is at the same time sufficient to create an adequate airflow to cool the processor of the device, as claimed. Accordingly, there actually is support for the claimed elements of the fan, as recited in the claims and as described throughout the specification.

Claim 11, which depends from claim 1, was rejected under 35 U.S.C. § 112 for lacking structural cooperative relationships of elements. Although the rejection to claim 11 was not clear, amendments have been made to claim 11 to more clearly define the structural relationship between the dampening member, the housing and the fan. (Support for the amendments to claim 11 is found in paragraph [043] and Figure 3).

The last independent claim at issue, claim 26, is directed to a computing device similar to that recited in claim 1, wherein the housing also includes at least one vent through which the fan can draw air through, and wherein the fan has an axis of rotation that is substantially parallel to the height of the housing.

In the last action, the Examiner has suggested that the size/speed/height characteristics of the fan are obvious and that modification thereof involve only routine skill in the art. Applicants, however, respectfully disagree.

Initially, Applicant points out that it is the height of the computing device housing that is at issue and not the height of the fan. Furthermore, with regard to the rotational velocity of the fan and the diameter of the fan, Applicant has already explained the acoustic benefits that can be obtained from the inventive fan having a low operational velocity and a relatively large diameter. This is even more apparent in the presently claimed embodiment. In particular, by orienting the fan in such a way that the axis of rotation is parallel with the height of the housing, it is possible to have a fan diameter that is greater than the height of the housing, so as to achieve the benefits previously described (e.g., adequate air flow and low acoustic noise).

The benefits of the present embodiment are particularly relevant for low profile devices such as set-top boxes, DVRs and PVRs that are configured with small height dimensions. For example, instead of cooling the low profile devices with small fans having high RPMs and high acoustic signatures, as is currently done in the art, it is possible to cool the devices with fans having large diameters and low operational velocities, as described in Applicants' invention, thereby reducing or minimizing the acoustic signatures of the fans.

With specific regard to the low acoustic signature of the fan, it will be noted that this claim element was previously recited in cancelled claim 6. The Examiner, however, stated that this element was not given patentable weight because it was merely narrative in form. The Examiner also stated that in order for a functional recitation to be given patentable weight, it must be expressed as a "means" for performing the function and that it must be supported by recitation of sufficient structure to warrant the presence of the functional language.

Applicants strongly disagree with these statements. Initially, it should be pointed out that the case cited by the Examiner (In re Fuller, 1929 C.D. 172; 388 O.G. 279) is a case that was issued by the commissioner before 35 U.S.C. § 112 was even codified (1952).

Applicants also respectfully submit that the recited claim element as it was recited in cancelled claim 6, and as it now persists in the amended claims (1, 26), is not merely narrative in form. To the contrary, this claim element comprises a limitation that recites a specific attribute / characteristic of the fan. It is also pointed out that this attribute of having a low acoustic signature is not a functional limitation. Nevertheless, even assuming, *arguendo*, that the acoustic

attribute of the fan could be considered a functional limitation, there is no requirement that a functional limitation has to be written in the "means for" format identified by 35 U.S.C. § 112, paragraph 6. To the contrary, the recitation of the "means for" language is discretionary and merely invokes the presumption that the corresponding limitation will be protected and interpreted under 35 U.S.C. § 112 paragraph 6.

Additionally, the recitation of structure is absolutely NOT required to warrant the presence of functional language under 35 U.S.C. § 112 paragraph 6, as suggested by the Examiner, even if Applicant was trying to recite a functional limitation. In fact, just the opposite is true. Although the use of the word "means" establishes a presumption that an element is a means-plus-function element, the presumption falls if the claim itself recites sufficient structure to perform the function, as reasoned in *Envirco Corp. v. Clestra Cleanroom Inc.*, 209 F.3d 1360, 1365 [54 USPQ2d 1449] (Fed. Cir. 2000).

Accordingly, for at least the foregoing reasons, Applicants respectfully submits that independent claims 1 and 26 are presented in a proper format and that the recited element regarding the acoustic properties of the fan are not merely narrative in form.

Applicants also submit that the cited art fails to anticipate or make obvious the pending claims for at least the forgoing reasons. In particular, the cited art fails to disclose or suggest any device in which a cooling fan has a low rotational velocity and a sufficient diameter for enabling cooling of at least a processor, and without generating a high acoustic signature, as claimed.

Furthermore, with specific regard to claim 26, the Examiner has failed to show any device in which the height of the device is the smallest dimension of the device and in which the diameter of the fan is greater than the height of the fan. The Examiner has consistently stated that Bolognia shows this. However, the height of the housing or (cover 76) in Bolognia is clearly not the smallest dimension of the housing. In fact, just the opposite is true. The height of the housing/cover 76 is actually shown to be the largest dimension of the device (see Figure 3, which was referenced by the Examiner). The fan/blower assembly 52 shown in Bolognia also clearly does not have a diameter that exceeds the height of the housing/cover 76.

The other art cited by the Examiner also fails to show this limitation. In fact, Hirano, Alfano and Lai[2] do not even show a housing that is adapted to receive a processor and in which a

[2] Lai (U.S. Patent 6,400,049) was referred to in the Office Action, although it was not specifically cited as grounds for rejecting a claim.

fan can be mounted, as claimed. Instead, Hirano and Lai only show the cooling fans, while Alfano only shows flowcharts, graphs and circuit diagrams.

For at least the foregoing reasons, Applicants respectfully submit that all of the pending claims 1-5, 7, 9-26, 31 and 33-38 are neither anticipated by nor made obvious by the cited art of record.

In the event that the Examiner finds remaining impediment to a prompt allowance of this application that may be clarified through a telephone interview, the Examiner is requested to contact the undersigned attorney.

Dated this 29 day of April 2004.

Respectfully submitted,

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